

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant: David C. Collins et al. Examiner: Grant Sitta  
Serial No.: 10/821,135 Group Art Unit: 2629  
Filed: April 8, 2004 Docket No.: 200400517-1  
Title: GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES

## **REPLY BRIEF TO EXAMINER'S ANSWER**

## **Mail Stop Appeal Brief – Patents**

## Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is presented in response to the Examiner's Answer mailed March 6, 2009, and in support of the Notice of Appeal filed October 20, 2008 and the Appeal Brief filed December 4, 2008, appealing the rejection of claims 1-21 and 23-25 identified application as set forth in the Final Office Action mailed August 21, 2008.

At any time during the pendency of this application, please charge any fees required or credit any overpayment due to Deposit Account No. 08-2025 pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees required to Deposit Account No. 08-2025 under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Appellant respectfully requests reconsideration and reversal of the Examiner's rejection of pending claims 1-21 and 23-25.

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**ARGUMENT**

**I. Rejection of Claim 1 on the Ground of Nonstatutory Double Patenting**

The claims of the cited primary references do not teach or suggest each and every element of claim 1. In addition, the cited secondary reference (Gibbon) does not teach or suggest the elements of claim 1 that are not taught by the cited primary references.

**A. The Applicable Law**

The Applicable Law is provided in the Appeal Brief filed on December 4, 2008.

**B. Rejection of Claim 1 on the Ground of Nonstatutory Double Patenting over claim 1 of U.S. Patent No. 7,109,981 (Damera-Venkata '981) in view of U.S. Patent Publication No. 2003/0020809 (Gibbon)**

In the Examiner's Answer, the Examiner again concedes that the claims of Damera-Venkata '981 do not recite "wherein each of the second set of pixels is centered relative to a respective one of the first set of pixels" as recited in claim 1. Examiner's Answer, p. 11.

The Examiner continues to rely on the teaching of Gibbon that "the two resulting sub-images are offset by one half of a pixel in both horizontal and vertical directions", Gibbon, [0012] (emphasis added). See Examiner's Answer, p. 11. The Examiner also includes Fig 6 and Fig 10 which further show the offset relationship between the pixels of sub-images 41 and 51.

Despite this plain teaching of Gibbon that the pixels of the sub-images are offset, the Examiner attempts to argue that the pixels of the sub-images are centered with respect to one another. Examiner's Answer, p. 11 ("the edges of the pixel will be centered relative to the respective pixel of the corresponding sub-frame group . . ."). This argument renders the term "centered" meaningless and plainly contradicts the teaching of Gibbon that the pixels of the sub-images are offset. Further, this argument is again relying on the spatial relationship between "the two resulting sub-images" of Gibbon and not on the spatial relationship between pixels of "the two resulting sub-images" and pixels of the image data from which "the two resulting sub-images" were created. Gibbon clearly teaches that the two resulting sub-images are offset from one another and not centered with respect to one another, and Gibbon in no way suggests that the sub-images are centered with respect to the image data.

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The Examiner suggests that Appellant is attempting to read limitations of the specification into the claim language. Examiner's Answer, p. 11. As described in the Appeal Brief, claim 1 recites that "each of the second set of pixels", i.e., each of the pixels of the first and the second sub-frames, "is centered relative to a respective one of the first set of pixels", i.e., a respective one of the pixels of the image data. The Examiner has failed to show any centered relationship between the pixels in the sub-images of Gibbon. Accordingly, the Examiner has failed to demonstrate any teaching or suggestion of the above features of claim 1.

Neither claim 1 of Damera-Venkata '981 nor Gibbon teach or suggest all of the features of claim 1. Accordingly, Appellant respectfully requests the reversal of the non-statutory double patenting rejection of claim 1 over claim 1 of Damera-Venkata '981 in view of Gibbon.

**C. Rejection of Claim 1 on the Ground of Nonstatutory Double Patenting over claim 1 of U.S. Patent No. 7,301,549 (Damera-Venkata '549) in view of U.S. Patent Publication No. 2003/0020809 (Gibbon)**

In the Examiner's Answer, the Examiner again concedes that the claims of Damera-Venkata '549 do not recite "wherein each of the second set of pixels is centered relative to a respective one of the first set of pixels" as recited in claim 1. Examiner's Answer, p. 14.

Appellant respectfully submits Gibbon does not teach or suggest this feature of claim 1 for the reasons given above in Section I(B).

Neither claim 1 of Damera-Venkata '549 nor Gibbon teach or suggest all of the features of claim 1. Accordingly, Appellant respectfully requests the reversal of the non-statutory double patenting rejection of claim 1 over claim 1 of Damera-Venkata '549 in view of Gibbon.

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**II. Rejection of Claims 1, 2, 13, 14, and 20 under 35 U.S.C. §103(a)**

**A. The Applicable Law**

The Applicable Law is provided in the Appeal Brief filed on December 4, 2008.

**B. Rejection of Claims 1, 2, 13, and 20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,384,816 (Tabata) in view of U.S. Patent Publication No. 2003/0020809 (Gibbon)**

Neither Tabata nor Gibbon teach or suggest all of the features of claims 1, 2, 13, and 20.

**1. Rejection of Claims 1 and 2 under 35 U.S.C. §103(a) as being unpatentable over Tabata in view of Gibbon**

As described the in the Appeal Brief, neither Tabata nor Gibbon teach or suggest “generating first and second sub-frames, wherein the first and the second sub-frames comprise a second set of pixels, wherein each of the second set of pixels is centered relative to a respective one of the first set of pixels” as recited in claim 1.

In the Examiner’s Answer, the Examiner cites additional portions of Tabata (i.e., Fig. 1 (Prior Art), Fig. 2 (Prior Art), and col. 1, lines 20-35) in an attempt to demonstrate a teaching or suggestion of the above feature of claim 1. The Examiner, however, does not explain how these cited portions in the Abstract and Background of the Invention of Tabata teach or suggest the above feature of claim 1.

Claim 1 recites the generation of two sub-frames and “alternating between displaying the first sub-frame in a first position and displaying the second sub-frame in a second position spatially offset from the first position.” In the portions of Tabata relied on by the Examiner, Tabata teaches the display of a single image in different positions. Accordingly, Tabata does not teach or suggest “generating first and second sub-frames” (i.e., two sub-frames) and “alternating between displaying the first sub-frame … and displaying the second sub-frame” as recited in claim 1.

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The Examiner does not contest Appellant's argument that Tabata does not teach or suggest "wherein each of the second set of pixels is centered relative to a respective one of the first set of pixels" as recited in claim 1. Examiner's Answer, p. 15.

To demonstrate a teaching or suggestion of this feature of claim 1, the Examiner continues to rely on the teaching of Gibbon that "the two resulting sub-images are offset by one half of a pixel in both horizontal and vertical directions", Gibbon, [0012] (emphasis added). See Examiner's Answer, p. 15 (citing Figs. 6 and 10 and paragraph [0012]. As described above in Section I(B), Gibbon clearly teaches that two resulting sub-images are offset from one another and not centered with respect to one another. In addition, Gibbon in no way suggests that sub-images are centered with respect to image data. Accordingly, Gibbon also does not teach or suggest this feature of claim 1.

Neither Tabata nor Gibbon teach or suggest all of the features of claims 1 and 2. Accordingly, Appellant respectfully requests the reversal of the rejection of claim 1 and claim 2 which depends from claim 1 under 35 U.S.C. §103(a).

**2. Rejection of Claim 13 under 35 U.S.C. §103(a) as being unpatentable over Tabata in view of Gibbon**

Neither Tabata nor Gibbon teach or suggest "an image processing unit configured to define first, second, third, and fourth sub-frames comprising a second set of pixels, wherein each of the second set of pixels is centered on a respective one of the first set of pixels" as recited in claim 13.

Appellant respectfully submits that this feature of claim 13 patentably distinguishes over Tabata for reasons similar to those given above in Section II(B)(1).

With regard to claim 13, the Examiner also argues that "Tabata teaches using a 4-point pixels shift which consists of dividing a frame into fields or sub-frames" and also cites col. 5, lines 30-35 of Tabata. Examiner's Answer, p. 16.

Claim 13 recites an image processing unit configured to define four sub-frames. Claim 13 also recites "a display device adapted to alternately display the first sub-frame in a first position, the second sub-frame in a second position spatially offset from the first position, the third sub-frame in a third position spatially offset from the first position and the second position, and the fourth sub-frame in a fourth position spatially offset from the first

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position, the second position, and the third position.” The portions of Tabata cited by the Examiner do not support the notion that a frame is divided into fields or sub-frames as suggested by the Examiner. As noted above in Section II(B)(1), Tabata teaches the display of a single image in different positions. Accordingly, Tabata does not teach or suggest an image processing unit configured to define four sub-frames or a display device adapted to alternately display the four sub-frames at offset positions as recited in claim 13.

The Examiner does not contest Appellant’s argument that Tabata does not teach or suggest “wherein each of the second set of pixels is centered on a respective one of the first set of pixels” as recited in claim 13. Examiner’s Answer, p. 16.

The Examiner again relies on Gibbon as a teaching or suggestion of this feature of claim 13. As described above in Sections I(B) and II(B)(1), Gibbon clearly teaches that two resulting sub-images are offset from one another and not centered with respect to one another. In addition, Gibbon in no way suggests that sub-images are centered with respect to image data. Accordingly, Gibbon also does not teach or suggest this feature of claim 13.

Neither Tabata nor Gibbon teach or suggest all of the features of claim 13. Accordingly, Appellant respectfully requests the reversal of the rejection of claim 13 under 35 U.S.C. §103(a).

**3. Rejection of Claim 20 under 35 U.S.C. §103(a) as being unpatentable over Tabata in view of Gibbon**

Neither Tabata nor Gibbon teach or suggest “means for generating the first, the second, the third, and the fourth sub-frames using the image data, each of the first, second, third, and fourth sub-frames comprising a plurality of sub-frame pixel values that correspond to a plurality of sub-frame pixels wherein each of the plurality of sub-frame pixels are centered with respect to a respective one of a plurality of pixels of the image data” as recited in claim 20.

Appellant respectfully submits that this feature of claim 20 patentably distinguishes over Tabata for reasons similar to those given above in Sections II(B)(1) and II(B)(2).

The Examiner concedes that Tabata does not teach or suggest “wherein each of the plurality of sub-frame pixels are centered with respect to a respective one of a plurality of pixels of the image data” as recited in claim 20. Examiner’s Answer, p. 18.

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The Examiner again relies on Gibbon as a teaching or suggestion of this feature of claim 20. As described above in Sections I(B), II(B)(1), and II(B)(2), Gibbon clearly teaches that two resulting sub-images are offset from one another and not centered with respect to one another. In addition, Gibbon in no way suggests that sub-images are centered with respect to image data. Accordingly, Gibbon also does not teach or suggest this feature of claim 20.

Neither Tabata nor Gibbon teach or suggest all of the features of claim 20.

Accordingly, Appellant respectfully requests the reversal of the rejection of claim 20 under 35 U.S.C. §103(a).

**C. Rejection of Claim 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,384,816 (Tabata) in view of U.S. Patent Publication No. 2003/0020809 (Gibbon) in further view of U.S. Patent No. 6,304,245 (Groenenboom)**

Claim 14 depends from claim 13. Groenenboom is cited as a teaching of the features of claim 14 and does not teach or suggest the features of claim 13 that are not taught or suggested by Tabata or Gibbon as described above in Section II(B)(2).

The combination of Tabata, Gibbon, and Groenenboom does not teach or suggest all of the features of claim 14. Accordingly, Appellant respectfully requests the reversal of the rejection of claim 14 under 35 U.S.C. §103(a).

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**CONCLUSION**

For the above reasons, Appellants respectfully submit that the grounds of nonstatutory double patenting based on the cited reference have not been established for claim 1 and that claims 1, 2, 13, 14, and 20 of the pending Application have not been established to be obvious in view of the cited references. Accordingly, Appellants respectfully request that the Examiner be reversed.

Any inquiry regarding this Reply Brief should be directed to either Roger Greer at Telephone No. (312) 360-0080, Facsimile No. (312) 360-9315 or Christopher P. Kosh at Telephone No. (512) 241-2403, Facsimile No. (512) 241-2409. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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